US Department of Energy
National Energy Technology Laboratory
Area of Interest 4: SEALING SYSTEMS BASED ON VISCOUS GLASS Modification 2

Document Type:	Modification to Previous Grants Notice
Funding Opportunity Number:	DE-PS26-07NT43208-04
Opportunity Category:	Discretionary
Current Closing Date for Applications:	Jan 15, 2008
Funding Instrument Type:	Cooperative Agreement
CFDA Number:	81.089 -- Fossil Energy Research and Development
Cost Sharing or Matching Requirement:	Yes

Eligible Applicants

Unrestricted (i.e., open to any type of entity above), subject to any clarification in text field entitled "Additional Information on Eligibility"

Description

NOTE: This descriptive area provides an overview of Area of Interest 4 only. YOU MUST READ THE ENTIRE FUNDING OPPORTUNITY ANNOUNCEMENT DOCUMENT FOR DETAILS ON ADDITIONAL INFORMATION, EVALUATION CRITERIA AND HOW TO PREPARE AN APPLICATION UNDER AN AREA OF INTEREST. Please scroll to the bottom of this page to access the Funding Opportunity Announcement (FOA Master.doc). Area of Interest 4: SEALING SYSTEMS BASED ON VISCOUS GLASS Objective: The objective of this topic is to develop novel viscous sealing concepts for SOFCs. Such concepts may offer significantly improved long-term structural durability under SOFC operating conditions, particularly with respect to accommodation of dimensional changes of cell/stack components resulting from thermal transients and gradients. Project Description: Seals for planar SOFCs are subject to a demanding set of imposed performance criteria due to the extreme operating environment. The seals must prevent the mixing of fuel and oxidant streams as well as prevent reactant escape to the surrounding environment. The seals must have a low electrical conductivity, be chemically and mechanically stable in a high temperature reactive environment (moist reducing and/or oxidizing conditions), and demonstrate chemical compatibility with the cell and interconnect materials of the particular SOFC cell/stack design. Volatile constituents (e.g., alkalis) in the seal should not have a deleterious effect upon cathode performance. Of particular importance is the ability to seal materials (e.g. interconnect alloys, Ni-YSZ cermet anodes) with differing coefficients of thermal expansion (CTE), and do so while exposed to temperature transients over a range from room temperature up to the maximum SOFC operating temperature (~ 850ºC). In addition, the seals must accommodate the thermal expansion of the fuel cell caused by in-plane temperature gradients, the result of heat generated by the electrochemical reaction and removed by the cathode airflow, without imposing excessive stresses within the cell. Fuel leakage should be less than one percent (1%) for the duration of the seal life. The seal material must be capable of a service life of more than 40,000 hours and dozens of thermal cycles for stationary systems. Manufacturability and cost are critical

factors in meeting SECA program goals. Applications are sought for the research and development of novel viscous sealing concepts. Such concepts may offer significantly improved long-term structural durability under SOFC operating conditions, particularly with respect to accommodation of dimensional changes of cell/stack components resulting from thermal transients and gradients. These may include glasses for which the softening temperature is below the lower bounds of the SOFC operating temperature (650C) and are resistant to devitrification. Given that such a sealing material on its own may be unable to withstand the differential pressure across the seal (up to 2 psid) or the stack bearing load, it is envisioned that an engineered composite solution (e.g., an impregnated ceramic felt or other structure) will be required to carry bearing loads and retain the viscous sealing material. The ultimate objective is the development of an economically-practical seal material/system that can provide near-hermetic sealing under all operating conditions for the life of planar SOFC stacks. Proposed Phase I approaches should combine rigorous analysis and experimentation to characterize the chemical compatibility and stability of the sealing materials in the SOFC environment, as well as composite seal design and experimental validation. Phase II will entail larger-scale testing, potentially in partnership with other SECA Core Technology seal R D efforts or one or more SECA Industry Teams. Award Value: DOE anticipates that awards will be $300,000 for Phase I ($250,000 DOE Share and at least 20% Cost Share) and $300,000 for Phase II ($250,000 DOE Share and at least 20% Cost Share). Interested parties looking to submit an application under this area of interest can download the application package at the following link: http://apply.grants.gov/apply/UpdateOffer?id=9967

Link to Full Announcement

Click here to view the Opportunity

http://www.grants.gov/search/search.do?&mode=VIEW&flag2006=true&oppId=15231

US Department of Energy
National Energy Technology Laboratory
Area of Interest 1: THEORY, INVESTIGATION AND STABILITY OF CATHODE ELECTROCATALYTIC ACTIVITY Modification 2

Document Type:	Modification to Previous Grants Notice
Funding Opportunity Number:	DE-PS26-07NT43208-01
Opportunity Category:	Discretionary
Current Closing Date for Applications:	Jan 15, 2008
Funding Instrument Type:	Cooperative Agreement
CFDA Number:	81.089 -- Fossil Energy Research and Development
Cost Sharing or Matching Requirement:	Yes

Eligible Applicants

Unrestricted (i.e., open to any type of entity above), subject to any clarification in text field entitled "Additional Information on Eligibility"

Description

NOTE: This descriptive area provides an overview of Area of Interest 1 only. YOU MUST READ THE ENTIRE FUNDING OPPORTUNITY ANNOUNCEMENT DOCUMENT FOR DETAILS ON ADDITIONAL INFORMATION, EVALUATION CRITERIA AND HOW TO PREPARE AN APPLICATION UNDER AN AREA OF INTEREST. Please scroll to the bottom of this page to access the Funding Opportunity Announcement (FOA Master.doc). Area of Interest 1: THEORY, INVESTIGATION AND STABILITY OF CATHODE ELECTROCATALYTIC ACTIVITY Objective: The objective of this topic is to develop semi-empirical correlations between the chemistry and structure of oxide surfaces and their electrocatalytic performance that would provide valuable guidance to SOFC developers wishing to enhance cathode performance. Project Description: Surface chemistry directly influences the nature of oxygen reduction reaction pathways on SOFC cathodes and the rates at which the individual processes proceed. Semi-empirical correlations between the chemistry and structure of oxide surfaces and their electrocatalytic performance would provide valuable guidance to SOFC developers and SECA Industry Teams wishing to enhance cathode performance. There is a general lack of surface-specific chemical and structural data that would allow defining the true cause-and-effect relationships. Phase I focuses on ad hoc or semi-empirical theoretical methods coupled with the necessary experimental work to fully understand the chemistry associated with the performance and stability of cathode materials. The SOFC cathode materials to be studied are bound by lanthanum strontium manganite (LSM) and LSCF. Phase I will also include the identification of potential specific surface modifications via infiltration or an alternate method that should increase the electrocatalytic activity of cathode materials. Phase II will focus on proving the theory and demonstrating with laboratory experimentation the viability of the approaches, suggested in Phase I, for improving SOFC cathode performance. Award Value: DOE anticipates that awards will be $300,000 for Phase I ($250,000 DOE Share and at least 20% Cost Share) and $600,000 for Phase II ($500,000 DOE Share and at least 20% Cost Share). Interested parties looking to submit an application under this area of interest can download the application package at the following link: http://apply.grants.gov/apply/UpdateOffer?id=9964 download the application package at the following link: http://apply.grants.gov/apply/UpdateOffer?id=9965

Link to Full Announcement

Click here to view the Opportunity
http://www.grants.gov/search/search.do?&mode=VIEW&flag2006=true&oppId=15229

US Department of Energy
National Energy Technology Laboratory

Area of Interest 3: NOVEL FUEL CELLS FOR COAL BASED SYSTEMS Modification 2

Document Type:	Modification to Previous Grants Notice
Funding Opportunity Number:	DE-PS26-07NT43208-03
Opportunity Category:	Discretionary
Current Closing Date for Applications:	Jan 15, 2008
Funding Instrument Type:	Cooperative Agreement
CFDA Number:	81.089 -- Fossil Energy Research and Development
Cost Sharing or Matching Requirement:	Yes

Eligible Applicants

Unrestricted (i.e., open to any type of entity above), subject to any clarification in text field entitled "Additional Information on Eligibility"

Description

NOTE: This descriptive area provides an overview of Area of Interest 3 only. YOU MUST READ THE ENTIRE FUNDING OPPORTUNITY ANNOUNCEMENT DOCUMENT FOR DETAILS ON ADDITIONAL INFORMATION, EVALUATION CRITERIA AND HOW TO PREPARE AN APPLICATION UNDER AN AREA OF INTEREST. Please scroll to the bottom of this page to access the Funding Opportunity Announcement (FOA Master.doc). Area of Interest 3: NOVEL FUEL CELLS FOR COAL BASED SYSTEMS Objective: The objective of this topic is to develop and demonstrate low-cost novel fuel cell designs appropriate for megawatt scale coal-based systems. Project Description: This topic area is focused on developing and demonstrating low-cost novel fuel cell designs appropriate for megawatt scale coal-based systems. The fuel cells shall use direct coal or raw coal syngas as the fuel type. It is expected that solid coal will include common contaminant speciation and concentrations whereas the gaseous coal-derived fuel will have the contaminants at a level of 30 pap. The fuel cell stack cost goal, including manifolds, interconnects, contact paste and seals, is $100/kW or less. Phase I will consist of design, identification of key performance parameters of the system, and cost analysis of the stack and system cost. Phase II will include development and validation of the low-cost novel fuel cell stack. Award Value: DOE anticipates that awards will be $240,000 for Phase I ($200,000 DOE Share and at least 20% Cost Share) and $600,000 for Phase II ($500,000 DOE Share and at least 20% Cost Share). Interested parties looking to submit an application under this area of interest can download the application package at the following link: http://apply.grants.gov/apply/UpdateOffer?id=9966

Link to Full Announcement

Click here to view the Opportunity
http://www.grants.gov/search/search.do?&mode=VIEW&flag2006=true&oppId=15230

US Department of Energy
National Energy Technology Laboratory
Plug In Hybrid Electric Vehicle (PHEV) Technology Acceleration And Deployment Activity Grant

Document Type:	Grants Notice
Funding Opportunity Number:	DE-PS26-08NT00360-01
Opportunity Category:	Discretionary
Current Closing Date for Applications:	Feb 13, 2008 This Funding Opportunity Announcement (FOA) has TWO (2) closing dates as outlined below. APPLICATION DUE DATE Round 1 February 13, 2008 8:00 PM Eastern time Round 2 April 30, 2008 8:00 PM Eastern time
Award Floor:	$10,000,000
CFDA Number:	81.087 -- Renewable Energy Research and Development
Cost Sharing or Matching Requirement:	Yes

Eligible Applicants

Unrestricted (i.e., open to any type of entity above), subject to any clarification in text field entitled "Additional Information on Eligibility"

Description

The Department of Energy (DOE), National Energy Technology Laboratory (NETL), on behalf of the Office of Energy Efficiency and Renewable Energy□s (EERE) Office of Vehicle Technologies (OVT) Program, is seeking applications for cost-shared development and demonstration of plug-in hybrid electric vehicles (PHEVs). The vehicle shall be capable of charging by using the standard 110 volt outlet found in every home and building across the United States.

Link to Full Announcement

http://ecenter.doe.gov/iips/faopor.nsf/1be0f2271893ba198525644b006bc0be/1ef6282dd8cd010c852573b6006b6742?OpenDocument

http://www.grants.gov/search/search.do?&mode=VIEW&flag2006=true&oppId=16298

US Department of Energy
Chicago Service Center
Environmental Remediation Science Program Grant

Document Type:	Grants Notice
Funding Opportunity Number:	DE-PS02-08ER08-09

Opportunity Category:	Discretionary
Current Closing Date for Applications:	Mar 26, 2008
CFDA Number:	81.049 -- Office of Science Financial Assistance Program
Cost Sharing or Matching Requirement:	No

Eligible Applicants

Unrestricted (i.e., open to any type of entity above), subject to any clarification in text field entitled "Additional Information on Eligibility"

Description

The Office of Science (SC), U.S. Department of Energy (DOE), hereby announces interest in receiving applications for research grants in the Environmental Remediation Sciences Program (ERSP). The Environmental Remediation Sciences Division (ERSD) within the Office of Biological and Environmental Research (BER) is tasked with developing the fundamental scientific basis for understanding the fate and transport of contaminants in the subsurface. This task is guided by the ERSD long term performance measure to provide (by 2015) sufficient scientific understanding such that DOE sites would be able to incorporate physical, chemical and biological processes into decision making for environmental remediation and long-term stewardship. In order to meet this measure the ERSD funds basic research to investigate the key processes affecting the mobility of subsurface contaminants found at DOE sites. The goal of this solicitation is to support innovative, fundamental research investigating the coupled physical, chemical, and biological processes affecting the transport of subsurface contaminants at DOE sites. Applications should address hypothesis-driven research to define and/or understand the key physical, chemical, and biological processes influencing the form and mobility of DOE contaminants in the subsurface. Research projects should aim to provide the scientific basis for the development of new remediation concepts, or strategies for the long term stewardship of contaminated sites across the DOE complex. Applications should address the applicability of the proposed research to understanding DOE relevant, field-scale, contaminant transport processes. The environment of interest is the terrestrial subsurface including the vadose zone, the saturated zone and key groundwater-surface water interfaces. Phytoremediation and the study of organic contaminants are NOT addressed in this Notice. An outline of the general science needs of the ERSP is listed below.

Link to Full Announcement

https://ecenter.doe.gov/iips/faopor.nsf/UNID/86EE4C7677BA2133852573B6005855D8?OpenDocument
http://www.grants.gov/search/search.do?&mode=VIEW&flag2006=true&oppId=16282

Plug In Hybrid Electric Vehicle (PHEV) Technology Acceleration And Deployment Activity Grant

Document Type:	Grants Notice
Funding Opportunity Number:	DE-PS26-08NT00360-02
Opportunity Category:	Discretionary
Current Closing Date for Applications:	Apr 30, 2008 Applications for submitted for Round 2 will only be evaluated under Round 2 of the announcement.
Funding Instrument Type:	Cooperative Agreement
Award Floor:	$10,000,000
CFDA Number:	81.087 -- Renewable Energy Research and Development
Cost Sharing or Matching Requirement:	Yes

Eligible Applicants

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Description

The Department of Energy (DOE), National Energy Technology Laboratory (NETL), on behalf of the Office of Energy Efficiency and Renewable Energy□s (EERE) Office of Vehicle Technologies (OVT) Program, is seeking applications for cost-shared development and demonstration of plug-in hybrid electric vehicles (PHEVs). The vehicle shall be capable of charging by using the standard 110 volt outlet found in every home and building across the United States.

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http://www.grants.gov/search/search.do?&mode=VIEW&flag2006=true&oppId=16303